Configuring and Troubleshooting Windows Server 2008 Application Infrastructure
MOC 6439

Course Outline

Module 1: Configuring Storage for Windows Server 2008 Applications
This module covers the storage options most commonly associated with Windows Server 2008 and Windows Server 2008 R2 instances today. It introduces storage architectures, mediums, and protocols, guides students through the configuration steps for connecting iSCSI storage, and introduces the concept of VHDs as storage and boot devices.

Lessons
- Lesson 1: Storage Concepts in Windows Server 2008
- Lesson 2: Configuring iSCSI Storage for Windows Server
- Lesson 3: Working with Virtual Hard Disks

Lab : Lab A: Configuring iSCSI Storage for Windows Server 2008
- Exercise 1: Configuring iSCSI Storage Connections for Windows Server
- Exercise 2: Configuring the MPIO DSM
- Exercise 3: Configuring a Redundant iSCSI Connection Using MPIO

Lab : Lab B: Managing Virtual Hard Disks
- Exercise 1: Creating a Virtual Hard Disk
- Exercise 2: Mounting a Virtual Hard Disk in Windows Server
- Exercise 3: Configuring Windows Server to Startup from a Virtual Hard Disk

After completing this module, students will be able to:
- Understand general Storage concepts in Windows Server 2008
- Configure iSCSI Storage for Windows Server
- Work with Virtual Hard Disks in Windows Server 2008

Module 2: Configuring High Availability for Windows Server 2008 Applications
This module covers Windows Server 2008 and Windows Server 2008 R2's built-in platforms that facility high availability for business applications. These general-purpose platforms include Network Load Balancing and Windows Failover Clustering in both single-site and multiple-site configurations.

Lessons
- Lesson 1: Network Load Balancing Fundamentals
- Lesson 2: Implementing a Network Load Balancing Cluster

Lab : Lab A: Installing and Managing an NLB Cluster
- Exercise 1: Building an NLB Cluster
- Exercise 2: Configuring NLB Cluster Options
- Exercise 3: Testing the NLB Cluster
- Exercise 4: Managing an NLB Cluster

Lab : Lab B: Building a Windows Failover Cluster
- Exercise 1: Preparing Windows Server for Hosting a Failover Cluster
- Exercise 2: Running the Cluster Validation Wizard
- Exercise 3: Building a Failover Cluster
- Exercise 4: Validating a Successful Failover Cluster Creation

Lab : Lab C: Managing a Windows Failover Cluster
- Exercise 1: Creating Cluster Resources
- Exercise 2: Configuring Cluster Resource Dependencies
- Exercise 3: Configuring Resource Policies and Owners
- Exercise 4: Testing Cluster Fail Over

After completing this module, students will be able to:
- Understand Network Load Balancing Fundamentals
- Implement a Network Load Balancing Cluster
- Understand Windows Failover Cluster Fundamentals
- Prepare for Failover Clustering
- Implementing a Windows Failover Cluster in Windows Server 2008

Module 3: Configuring Remote Desktop Services
This module covers the introductory steps required to bring a single Remote Desktop Services Host server online and prepare it for remote application delivery to users. Students in this module will complete all aspects of the single-server configuration while preparing the environment for adding potential future servers.

Lessons
- Lesson 1: Remote Desktop Services Overview
- Lesson 2: Configuring a Remote Desktop Services Host Server
- Lesson 3: Configuring the Remote Desktop User Experience
- Lesson 4: Deploying and Connecting to Remote App programs
- Lesson 5: Connecting Users to Applications with RD Web Access and RADC
- Lesson 6: Configuring Licensing for Remote Desktop Services

Lab : Lab A: Installing and Configuring an RD Session Host Server
- Exercise 1: Install the RD Session Host Role Service
- Exercise 2: Install an Application on the RD Session Host Server
- Exercise 3: Prepare the RD Session Host Server for Users
- Exercise 4: Connect to an RD Session Host with the RD Client

Lab : Lab B: Customizing the User Experience
- Exercise 1: Configure RD Session Host Printing
- Exercise 2: Configure RD Session Host Device Redirection
- Exercise 3: Configure the Desktop Experience
- Exercise 4: Configure Multimedia Redirection
- Exercise 5: Configure IP Virtualization

Lab : Lab C: Deploying and Connecting to Remote App programs
- Exercise 1: Create a RemoteApp Program
- Exercise 2: Deploy a RemoteApp
- Exercise 3: Connect to a Deployed RemoteApp Program

Lab : Lab D: Connecting Users to Applications with RD Web Access and RADC
- Exercise 1 Install and Configure RD Web Access
- Exercise 2: Use RD Web Access to Connect to Remote App programs
- Exercise 3: Configure Single Sign-On
- Exercise 4: Configure RADC
- Exercise 5: Use Group Policy to Distribute RADC Settings
- Exercise 6: Use RADC to Connect to RemoteApp programs

Lab : Lab E: Configuring Licensing for RDS
- Exercise 1 Install and Configure and RD Licensing Server
- Exercise 2: Configure RD Session Host Servers for Licensing
- Exercise 3: Review Licensing Configuration and Diagnosis

After completing this module, students will be able to:
- Understand Remote Desktop Services Windows Server 2008 and Windows Server 2008 R2
- Configure a Remote Desktop Services Host Server
- Configure the Remote Desktop User Experience
- Deploy and Connect to Remote App programs
- Connect Users to Applications with RD Web Access and RADC
- Configure Licensing for Remote Desktop Services

Module 4: RDS in the Multiple-Server Configuration
This module covers the extra activities and knowledge required to expand a single-RDSH server environment to one with multiple RDSH servers in a farm configuration.

Lessons
- Lesson 1: Building an RDS Server Farm
- Lesson 2: Monitoring the RDS Environment

Lab : Lab A: Building an RDS Server Farm
- Exercise 1: Install RDSH on NYC-RDSH2
- Exercise 2: Configure an RDSH Server via Group Policy
- Exercise 3: Configure RDCB and NLB to create an RDS Farm

- Exercise 4: Configure RD Roaming Profiles
- Exercise 5: Test the connection to an RDS Farm

Lab : Lab B: Monitoring the RDS Environment
- Exercise 1: Use the RD Manager to Administer User Sessions
- Exercise 2: Use WSRM to Monitor RDS Resource Usage
- Exercise 3: Configure Fair Share CPU Scheduling

After completing this module, students will be able to:
- Build an RDS Server Farm
- Monitor and Configure the RDS Environment

Module 5: Securely Delivering RDS Applications to the Internet
This module covers the additional activities that are necessary to build and
secure a Remote Desktop Gateway server for the purposes of protecting RDS
communication as it passes through untrusted networks such as the Internet

Lessons
- Lesson 1: Remote Desktop Gateway Fundamentals
- Lesson 2: Installing and Managing the RDG

Lab : Lab: Installing and Managing the RDG
- Exercise 1: Installing and Configuring the RDG
- Exercise 2: Configuring RD CAPs and RD RAPs
- Exercise 3: Configuring SSO for User Connections
- Exercise 4: Testing RemoteApp Connections with the RDG

After completing this module, students will be able to:
- Remote Desktop Gateway Fundamentals
- Install, configure and Manage the RDG

Module 6: IIS Web Applications
This module covers the primary use of IIS as a Web application platform.
Students will learn to set up and maintain a Web site and application
configuration based upon business and developer requirements. Although
ASP.NET Web sites are commonly maintained by developers, IT professionals are
typically called upon to configure the platform and assist with maintenance.
This module will cover IIS 7.5 and IIS 7.0 and outline distinctions between them
but will focus on IIS 7.5 as in Windows Server 2008 R2

Lessons
- Lesson 1: IIS Functional Overview
- Lesson 2: Creating IIS Web Sites and Applications
- Lesson 3: Managing IIS Web Sites and Applications

Lab : Lab A: Creating IIS Web Sites and Applications
- Exercise 1: Configuring IIS Server Settings

- Exercise 2: Configuring an Application Pool
- Exercise 3: Creating and Configuring a Web Site
- Exercise 4: Configuring Basic Settings for a Web Application
- Exercise 5: Backing Up IIS Configuration Settings
- Exercise 6: Configuring a Virtual Directory

Lab : Lab B: Managing IIS Web Sites and Applications
- Exercise 1: Configuring ASP.NET
- Exercise 2: Configuring ASP.NET Application Settings
- Exercise 3: Configuring ASP.NET Security

After completing this module, students will be able to:
- Understand how IIS Works and What it can do in Windows Server 2008 and Windows Server 2008 R2
- Create IIS Web Sites and Applications
- Manage IIS Web Sites and Applications

Module 7: IIS FTP and SMTP Services
This module covers IIS' other major feature areas such as file transfer and email functionality. These features are commonly used to support Web sites, and this module will discuss how to properly configure these features in accordance with best practices and based upon business requirements.

Lessons
- Lesson 1: Implementing and Configuring IIS FTP Sites
- Lesson 2: Implementing and Configuring IIS SMTP Sites

Lab : Lab: Implementing FTP and SMTP
- Exercise 1: Installing FTP and SMTP
- Exercise 2: Configuring and Testing FTP
- Exercise 3: Configuring and Testing SMTP

After completing this module, students will be able to:
- Implement and Configure IIS FTP Sites
- Implement and Configure IIS SMTP Sites

Module 8: IIS Server and SSL Management
This module focuses on IIS' security-related features, including SSL, logging, delegated permissions, remote administration, and other features. Students will practice a variety of scenarios that reflect common real-world business requirements.

Lessons
- Lesson 1: Monitoring and Logging IIS
- Lesson 2: Managing IIS and SSL Security
- Lesson 3: Managing IIS Administrative Delegation and Remote Administration

Lab : Lab A: Managing IIS and SSL Security
- Exercise 1: Configuring SSL Bindings
- Exercise 2: Configuring IP Address Blocking
- Exercise 3: Configuring Logging
- Exercise 4: Testing and Validating the Configuration

Lab : Lab B: Configuring Remote and Delegated Administration in IIS
- Exercise 1: Configuring IIS Remote Administration
- Exercise 2: Configuring IIS Delegated Administration
- Exercise 3: Configuring IIS Feature Delegation

After completing this module, students will be able to:
- Configure and Monitor IIS and the IIS Logs
- Manage IIS and SSL Security
- Manage IIS Administrative Delegation and Remote Administration

Module 9: Microsoft SharePoint Foundation
This module covers the installation and configuration of this evolution of Windows SharePoint Services. Students will learn to set up and configure a basic document-sharing site that meets many common organizational and project requirements. It will focus on SharePoint Foundation 2010 as implemented in Windows Server 2008 and Windows Server 2008 R2

Lessons
- Lesson 1: Installing and Configuring SharePoint Foundation
- Lesson 2: SharePoint Foundation Integration

Lab : Lab: Installing and Configuring SharePoint Foundation
- Exercise 1: Install SharePoint Foundation 2010
- Exercise 2: Create an initial SharePoint site and document library
- Exercise 3: Delegate site permissions
- Exercise 4: Backup and recover the SharePoint site
- Exercise 5: Configure SharePoint Timer jobs
- Exercise 6: Configure usage and Report logging
- Exercise 7: Resetting the lab environment

After completing this module, students will be able to:
- Install and Configure SharePoint Foundation
- SharePoint Foundation Integration

Module 10: Windows Streaming Media Services
This module looks at the Media Services features of the Windows Server 2008 and Windows Server 2008 R2 platform, and introduces students to key concepts such as Real-Time Streaming Protocol, authentication, authorization, and more. Students will learn to install and configure Media Services to support use of the system features.

Lessons
- Lesson 1: Installing and Configuring Streaming Media Services
- Lesson 2: Securing Streaming Media

Lab : Lab A: Installing and Configuring Media Services
- Exercise 1: Installing the Media Services Role
- Exercise 2: Configuring On-Demand Streaming and RTSP
- Exercise 3: Configuring Bandwidth and Connection Limits
- Exercise 4: Verify and Tune Media Services delivery
- Exercise 4: Configuring Web-based Administration of Media Services

Lab : Lab B: Configuring Media Services Content Security
- Exercise 1: Configuring Authentication for a Publishing Point
- Exercise 2: Restricting Access to Files to Specified Users
- Exercise 3: Allowing Anonymous Access to Files on a New Publishing Point
- Exercise 4: Allowing Access to Intranet Users

After completing this module, students will be able to:
- Install and Configure Streaming Media Services
- Secure Streaming Media